

Common Blood Tests For Cats

Kidney Panel

ALB – Albumin: A protein that can be lost in the urine when kidney function is impaired, particularly in conditions like glomerulonephritis.

BUN – Blood Urea Nitrogen: Measures the amount of urea nitrogen in the blood, a waste product filtered out by the kidneys. Elevated levels indicate impaired kidney function.

Ca – Calcium: Imbalances in calcium levels can be seen in kidney disease, often due to changes in phosphorus handling.

Cl – Chloride: Helps evaluate electrolyte and acid-base balance, often disrupted in kidney disease.

Crea – Creatinine: A waste product from muscle metabolism, creatinine levels rise as kidney function declines.

GFR – Glomerular Filtration Rate (calculated based on BUN, creatinine, and other factors): Provides an estimate of how well the kidneys are filtering waste from the blood.

K – Potassium: Potassium levels are important for assessing electrolyte balance; high levels (hyperkalemia) can indicate kidney failure.

Na – Sodium: Sodium levels help assess the balance of fluids and electrolytes in the body, which is regulated by the kidneys.

Phos – Phosphorus: Elevated phosphorus levels are often associated with kidney disease as the kidneys lose their ability to excrete excess phosphorus.

SDMA – Symmetric Dimethylarginine: A more sensitive biomarker that detects early kidney dysfunction before creatinine levels rise.

Thyroid Hormones

T4 – Total Thyroxine: Measures the total amount of T4 hormone in the blood, including both the hormone bound to proteins and the free, active hormone.

fT4 – Free T4 (optional in some panels): Measures the unbound, biologically active form of thyroxine in the blood, which provides a more accurate picture of thyroid function.

Urine Tests

USG – Urine Specific Gravity: Measures the concentration of urine. Low specific gravity can indicate that the kidneys are losing their ability to concentrate urine.

UPC – Urine Protein to Creatinine Ratio: Detects protein loss in urine, a sign of kidney damage or glomerular disease.

UA – Urinalysis: Assesses urine for kidney disease, urinary tract infections, diabetes, dehydration. Measures pH, protein, glucose, red/white blood cells, crystals, and sediment. Test definitions and ranges below.

Collection Free Catch

Definition: This refers to a method of urine collection where urine is caught midstream without sterile procedures.

Normal Range: No specific range. It's a collection method description.

Color

Normal Range: Pale yellow (straw) to amber is considered normal.

Clarity

Definition: Clear urine typically indicates the absence of large particles like cells, crystals, or bacteria.

Normal Range: Clear is normal; cloudy may indicate infection or other abnormalities.

Specific Gravity

Definition: This measures the concentration of urine compared to water (1.000).

Normal Range: 1.005–1.030 in dogs and cats.

pH

Definition: pH measures the acidity or alkalinity of urine.

Normal Range: 5.0–7.5 in dogs and cats. A pH of 5.0 is acidic but can be normal.

Urine Protein

Definition: The absence of protein in the urine.

Normal Range: Negative. Protein in urine may indicate kidney damage.

Glucose

Definition: Glucose (sugar) detected in the urine.

Normal Range: Negative. Presence of glucose can indicate diabetes.

Ketones

Definition: Byproducts of fat metabolism detected in the urine.

Normal Range: Negative. Ketones can be present in cases of starvation or diabetes.

Blood / Hemoglobin

Definition: Red blood cells per microliter of urine.

Normal Range: Negative to very low (<5 Ery/ μ L). Elevated red blood cells indicate possible infection, trauma, or stones.

Bilirubin

Definition: A breakdown product of red blood cells.

Normal Range: Negative to trace amounts. Bilirubin can indicate liver issues if elevated.

Urobilinogen

Definition: A byproduct of bilirubin breakdown.

Normal Range: Normal. Elevated levels may indicate liver disease.

White Blood Cells

Definition: Cells per high-power field (HPF) on microscopy.

Normal Range: 0-3 WBCs/HPF. Elevated levels may indicate infection.

Red Blood Cells

Definition: Cells per high-power field on microscopy.

Normal Range: 0-5 RBCs/HPF. Elevated levels can suggest bleeding in the urinary tract.

Bacteria, Cocci

Definition: Round bacteria detected in the urine.

Normal Range: Presence may indicate infection.

Bacteria, Rods

Definition: Rod-shaped bacteria detected in the urine.

Normal Range: Presence may indicate infection.

Squamous Epithelial Cells

Definition: These cells line the urethra.

Normal Range: Few to none. Higher levels may suggest contamination.

Non-Squamous Epithelial Cells

Definition: Non-squamous epithelial cell per high-power field. These cells line the bladder and upper urinary tract.

Normal Range: 0-3/HPF. Higher levels may suggest kidney or bladder damage.

Hyaline Casts

Definition: Hyaline casts are cylindrical structures formed by proteins secreted by kidney cells.

Normal Range: None to few. Presence indicates kidney damage or stress.

Non-Hyaline Casts

Definition: Casts include granular, waxy, or cellular casts formed in the kidneys.

Normal Range: None. Presence indicates significant kidney pathology.

Calcium Oxalate Dihydrate Crystals

Definition: Crystals which can form kidney stones.

Normal Range: None to few. Presence can indicate risk of stone formation.

Struvite Crystals

Definition: Struvite (magnesium ammonium phosphate) crystals detected.

Normal Range: None to few. Can indicate stone formation if elevated.

Ammonium Biurate Crystals

Definition: Crystals associated with liver disease.

Normal Range: None. Presence may suggest liver dysfunction.

Bilirubin Crystals

Definition: Any crystals detected.

Normal Range: None. Presence may indicate liver disease.

Unclassified Crystals

Definition: Unclassified or uncommon types of crystals detected.

Normal Range: None.

Complete Blood Count (CBC)

BASO – Basophils: Involved in allergic reactions and inflammation.

EOS – Eosinophils: Respond to allergies and parasitic infections.

HCT – Hematocrit (or PCV - Packed Cell Volume): Percentage of blood volume occupied by red blood cells.

HGB – Hemoglobin: The amount of oxygen-carrying protein in the red blood cells.

LYM – (Lymphocytes): Key in immune response and antibody production.

MCH – Mean Corpuscular Hemoglobin: The average amount of hemoglobin per red blood cell.

MCHC – Mean Corpuscular Hemoglobin Concentration: The concentration of hemoglobin in red blood cells.

MCV – Mean Corpuscular Volume: Average size of red blood cells.

MON – Monocytes: Help fight chronic infections and aid tissue repair.

MPV – Mean Platelet Volume: Indicates the average size of platelets.

NEU – Neutrophils: First responders to bacterial infections.

PLT – Platelet Count: Measures the number of platelets, essential for blood clotting.

RBC – Red Blood Cell Count: Measures the number of red blood cells, which carry oxygen.

RDW – Red Cell Distribution Width: Measures variation in red blood cell size, which can indicate anemia.

RETIC – Reticulocyte Count: Measures immature red blood cells to assess bone marrow activity (often done if anemia is suspected).

WBC – White Blood Cell Count: Measures the total number of white blood cells.

Blood Chemistry Panel

AG – Anion Gap: Helps assess the body's acid-base balance, especially for metabolic acidosis, which can be caused by kidney disease, diabetes, or dehydration.

ALB – Albumin: A protein made by the liver. Low albumin can indicate liver disease, kidney disease, or malnutrition.

ALP – Alkaline Phosphatase: A liver enzyme. Increased levels can indicate liver, bone, or gallbladder disease.

ALT – Alanine Aminotransferase: Measures liver enzyme levels. High ALT indicates liver cell damage.

AST – Aspartate Aminotransferase: An enzyme found in the liver and muscles. Elevated levels suggest liver damage or muscle injury.

BUN – Blood Urea Nitrogen: Measures the amount of nitrogen in the blood from urea (waste product). Elevated levels suggest kidney dysfunction or dehydration.

Ca – Calcium: Vital for bone health and metabolic function. Abnormal levels can indicate kidney disease, cancer, or parathyroid gland disorders.

CHOL – Cholesterol: Assesses lipid metabolism. High cholesterol can be associated with liver disease, diabetes, hypothyroidism, or pancreatitis.

Cl – Chloride: Works with sodium to regulate fluid balance and acid-base balance in the body. Abnormal levels often indicate dehydration or kidney disease.

CREA – Creatinine: Indicates kidney function. High levels suggest impaired kidney function or muscle breakdown.

GLU – Glucose: Measures blood sugar levels. High levels can indicate diabetes, stress, or pancreatitis; low levels can suggest hypoglycemia.

K – Potassium: An electrolyte important for heart and muscle function. Low or high levels can cause heart problems, often linked to kidney or adrenal disease.

Na – Sodium: An electrolyte crucial for fluid balance, nerve, and muscle function. Abnormal levels may indicate dehydration, kidney, or adrenal issues.

PHOS – Phosphorus: An important mineral for bone health. High phosphorus can indicate kidney disease.

TBIL – Total Bilirubin: Measures bilirubin, a product of red blood cell breakdown. High levels indicate liver or bile duct problems, or hemolysis.

TCO2 – Total Carbon Dioxide or Bicarbonate: Measures bicarbonate levels to assess the acid-base balance in the body. Abnormal levels can suggest respiratory or metabolic issues.

TP – Total Protein: Measures all proteins in the blood, including albumin and globulin. It helps assess hydration, liver, and kidney function.

Electrolyte Panel

Ca – Calcium: Vital for bone health and metabolic function. Abnormal levels can indicate kidney disease, cancer, or parathyroid gland disorders.

Cl – Chloride: Helps evaluate electrolyte and acid-base balance, often disrupted in kidney disease.

K – Potassium: Potassium levels are important for assessing electrolyte balance; high levels (hyperkalemia) can indicate kidney failure.

Na – Sodium: Sodium levels help assess the balance of fluids and electrolytes in the body, which is regulated by the kidneys.

Specific Disease Tests

Amylase and Lipase – Measure enzymes for pancreatic health.

Coagulation Tests (Clotting)

fPLI – (Feline Pancreatic Lipase Immunoreactivity): Detects pancreatitis.

Feline Infectious Peritonitis (FIP)

Feline Leukemia Virus – (FeLV) and Feline Immunodeficiency Virus (FIV)

Heartworm Antigen – detects the presence of antigens produced by adult female heartworms in a dog's bloodstream. This test is used to identify heartworm infection in dogs (*and sometimes cats*) by checking for the proteins that heartworms release when they reach maturity.

Fecal Tests

Detects intestinal parasites (roundworms, hookworms, tapeworms), protozoa (Giardia, Cryptosporidium). Includes fecal float, direct smear, and fecal ELISA tests.